IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A method for carrying out channel equalization in a radio receiver comprising at least one prefilter and a channel equalizer, the method comprising:

estimating a channel impulse response of a received signal in the channel equalization,

determining noise power by estimating a covariance matrix of the noise contained in a received signal before prefiltering the received signal by using the estimated impulse response,

calculating tap coefficients of the prefilters and the channel equalizer [[an]] equalizer by using the noise power and the impulse response estimate,

determining the noise power after the prefiltering the received signal by estimating a noise variance after the prefiltering, and

weighting input signals of the channel equalizer by weighting coefficients obtained by estimating the estimated noise variance.

2.   (Previously Presented) A method as claimed in claim 1, wherein the signals to be weighted are the impulse response corrected by means of a noise covariance matrix estimate and the received prefiltered signals.

3.   (Currently Amended) A method as claimed in claim 1, wherein the signals supplied to the channel equalizer are weighted by the weighting coefficients that are determined taking [[the]] biasing in the noise power estimate into account.

4.   (Previously Presented) A method as claimed in claim 1, wherein channel equalization is carried out using a channel equalizer based on the Viterbi algorithm.

3

5.   (Previously Presented) A method as claimed in claim 1, wherein channel equalization is carried out using a decision feedback channel equalizer.

6.   (Currently Amended) A radio receiver comprising:

means for estimating [[an]] a channel impulse response of a received signal in the channel equalization,

means for determining noise power of a received signal by estimating a covariance matrix of the noise contained in the received signal before prefiltering the received signal by using the estimated impulse response,

means for calculating tap coefficients of prefilters and a channel equalizer by using the noise power and the impulse response estimate,

means for determining the noise power after the prefiltering the received signal by estimating a noise variance after the prefiltering, and

means for weighting input signals of the channel equalizer by weighting coefficients obtained from the noise variance estimation.

7.   (Currently Amended) A radio receiver as claimed in claim 6, wherein the signals to be weighted are the impulse response estimates corrected by means of [[a]] the noise covariance matrix estimate and the received prefiltered signals after the prefiltering.

8.   (Currently Amended) A radio receiver as claimed in claim 6, the receiver comprises further comprising means for weighting the signals supplied to the channel equalizer by weighting coefficients that are determined taking [[the]] biasing in the noise power estimate into account.

9.   (Currently Amended) A radio receiver as claimed in claim 6, the receiver comprises further comprising means for carrying out channel equalization by a channel equalizer based on the Viterbi algorithm.

10.   (Currently Amended) A radio receiver as claimed in claim 6, the receiver comprises further comprising means for carrying out channel equalization using a decision feedback channel equalizer.

11.   (New) A module comprising:

means for estimating a channel impulse response of a received signal in the channel equalization,

means for determining noise power of a received signal by estimating a covariance matrix of the noise contained in the received signal before prefiltering the received signal by using the estimated impulse response,

means for calculating tap coefficients of prefilters and a channel equalizer by using the noise power and the impulse response estimate,

means for determining the noise power after the prefiltering the received signal by estimating a noise variance after the prefiltering, and

means for weighting input signals of the channel equalizer by weighting coefficients obtained from the noise variance estimation.

12.   (New) A computer program product comprising:

means for estimating a channel impulse response of a received signal in the channel equalization,

means for determining noise power of a received signal by estimating a covariance matrix of the noise contained in the received signal before prefiltering the received signal by using the estimated impulse response,

means for calculating tap coefficients of prefilters and a channel equalizer by using the noise power and the impulse response estimate,

means for determining the noise power after the prefiltering the received signal by estimating a noise variance after the prefiltering, and

means for weighting input signals of the channel equalizer by weighting coefficients obtained from the noise variance estimation.